Outdoor Lighting
California Energy Efficiency Standards 2005

Building Entrances and Entrance Canopies

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Issues

- Building entrances provide a transitional space.
  - Illumination should be midway between parking area and interior.
  - Key tasks include way-finding and physical safety.
- Types:
  - Front doors, exit doors.
  - Covered and uncovered entrances.
  - Loading docks, utility service entrances.
  - Patios, balconies: Any outdoor space with door to inside.

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Building Entrances

Design Criteria

- IESNA Lighting Handbook, Ninth Edition:
  - Active entrances — 5 fc Horizontal, 3 fc Vertical
  - Inactive entrances — 3 fc Horizontal, 3 fc Vertical

Transitional Zone	min	max
– Parking area	0.5 fc	5 fc
– Interior entrance	20 fc	70 fc
– Exterior entrance	2 fc	15 fc

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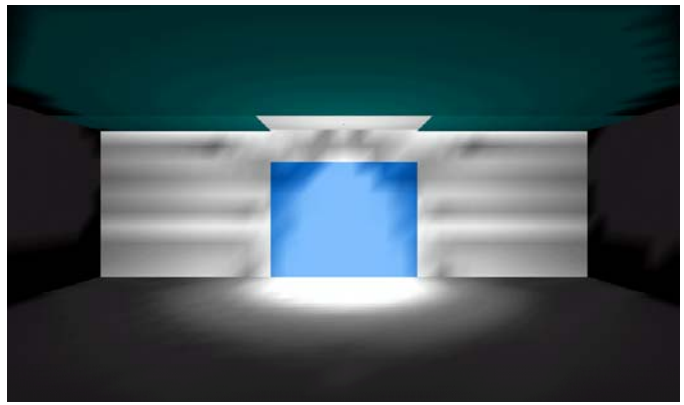
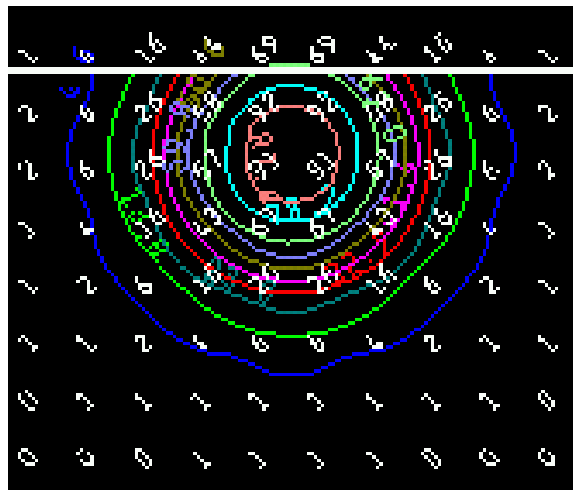
Modeling Assumptions

- Glazed storefront:
  - 25% glass reflectance.
  - 62% walls.
  - 49% ceiling.
  - 7% (asphalt).
- No overhang.
  - Or small to large canopy.
- 55 ml/W (metal halide).
- 70% LLF.





Entrance Canopies

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Area Definitions

- Area under canopy:
  - Horizontal projection under any waterproof canopy attached to building entrance.
  - Unlimited area.
- Uncovered entrance area:
  - 8 ft in front of door .
  - Plus 3 ft to either side of opening.
    - Uncovered 3 ft door = 9 ft x 8 ft = 72 ft^2
    - Uncovered loading dock (10 ft + 6 ft) * 8 ft = 128 ft^2

Entrance Requirements

- Lighting Power Density:

LZ1	LZ2	LZ3	LZ4
0.5 W/ft^2	0.5 w/ft^2	1.0 W/ft^2	1.5 W/ft^2

- Control requirements:
  - Photosensor or astronomical clock for daytime off.
  - After hours control options:

LZ1	LZ2	LZ3	LZ4
full off	occ. sensor	occ. sensor	occ. sensor
or	or	or	or
full off	full off	bi-level	bi-level

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